

Work Order ID 142134-1

February 29, 2016 10:18:14 AM

142134

For Bell/CCG orders
To ship ASAP
3 each kit

Page 1

Item ID: D3674-041

Revision ID:

Item Name: Bracket

Start Date: 2/29/2016 Start Qty: 20.00

Required Date: 3/2/2016 Req'd Qty: 20.00

Reference:

Accept

N9000040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals:

Process Plan: SH

Date: 20160229

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3674

Rev A

100

0.00

100

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blanks: (1.250" x 2.000") 5.400" long

DAS
20
9-89

DAS
20
9-89

16-03-13

110

0.00

110

HAAS CNC VERTICAL MACHINING #1

HAAS I

Memo

0.00

HAAS CNC vertical machine #1

1-Machine D3674-1 as per Folio FA732 and Dwg D3674 Identify as D3674-12-Debur3-Scribe batch number

4

DAS
20
9-89

16-03-14

16-03-16

120

0.00

120

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

4

DAS
20
9-89

16-03-14

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No: _____ NCR No: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																														
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																										
								Lead hand / Supervisor Approval Verification																																																										
								QC / QA Coordinator Approval																																																										
Root Cause		FAULT CATEGORY																																																																
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :				
Misidentified ☐	Past Due ☐																																																																	

Work Order ID 142134

February 29, 2016 10:18:14 AM

142134

Page 2

Item ID: D3674-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 2/29/2016 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 3/2/2016 Req'd Qty: 20.00 ***20*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00				4	0		DAS 45 9-89 2016-3-16
140 *140* Small Fab Small Fab	Small Fab Memo Assemble D3674-041 as per Dwg D3674	0.00 0.00				DAS 30 9-89 (4)			MAR 16 2016
150 *150* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				(4)			DAS 38 9-89 MAR 16 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
25				26				Lead hand / Supervisor	
								Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 142134

February 29, 2016 10:18:14 AM

142134

Page 3

Item ID: D3674-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 2/29/2016 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 3/2/2016 Req'd Qty: 20.00 ***20*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: <u>ST050</u>	0.00							
160									
Packaging	Memo	0.00							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.00							
Quality Control									

4 MAR 17 2016 DAS 6 3.09

MCS MAR 18 2016

MCS MAR 17 2016



Work Order update only ☐

Work Order: _____			DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐			AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐											
Part No. _____						Date :			Step #:			QTY Effective :			MRB (QSI042) Approval		
NCR No. _____						Description Work Order Deviation 			Disposition 						Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval 		
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐			Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐			FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐			Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐			Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____																	

Picklist Print

February 29, 2016 10:18:47 AM

Page 1

Work Order ID: 142134

142134

Parent Item: D3674-041

D3674-041

Parent Item Name: Bracket

Start Date: 2/29/2016

Required Date: 3/2/2016

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP Rev:A New Issue 08-04-25 JLM Verified By:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3121-241 *D3121-241* Bearing Assembly		Manufactured	No			100	Each	22.0000	1	20	DAS 30 9-89	MAR 16 2016	

**

Location

Loc Qty

Loc Code

FG

14

89826

4

95927

10

ST019

8

140218

8

D3121-21

Manufactured No

140

Each

51.0000

1

20

D3121-21

Bolt

**

DAS
30
9-89

MAR 16 2016

Location

Loc Qty

Loc Code

ST018

51

132416

4

136387

25

139463

22

M174B1.250X02.000

Purchased

No

140

f

14.4200

0.55

11.57895

M174B1 250X02 000

17-4 SS Bar 1.250 x 2.00

**

9.400'

DAS
20
9-89

16-03-14

Location

Loc Qty

Loc Code

MAT010

14.42

M131752

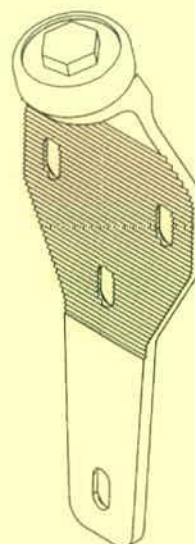
1.72

M132117

12.7

9.400'

QTY -041	PART NUMBER	DESCRIPTION
X	D3674-041	ROLLER BRACKET ASSEMBLY
1	D3121-21	BOLT
1	D3121-241	BEARING ASSEMBLY
1	D3674-1	BRACKET



D3674-041 BRACKET ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: N/A
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.23 lbs
- 8) TORQUE D3121-21 BOLT 15-25 in lbs (1.7-2.8 Nm)

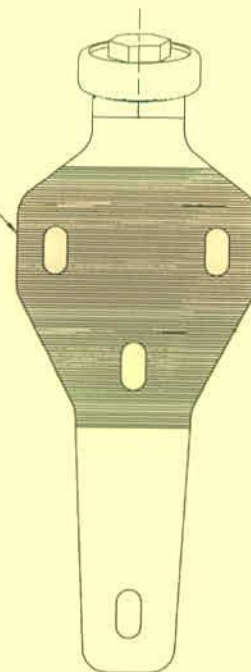
RELEASED
08.06.26.18

20160229 SH 142134

A	NEW ISSUE	AJS	08.03.26
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.03.26		

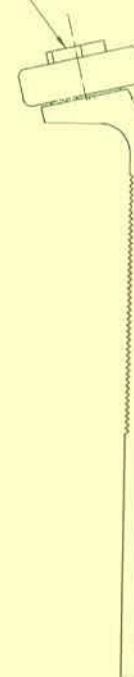
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D3674	REV. A
TITLE ROLLER BRACKET ASSEMBLY	SCALE NTS
COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

D3674-1 BRACKET



8
D3121-21 BOLT

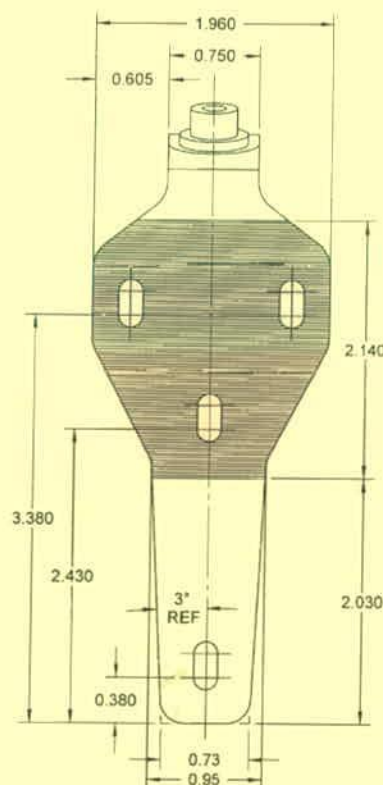
D3121-241 BEARING ASSEMBLY



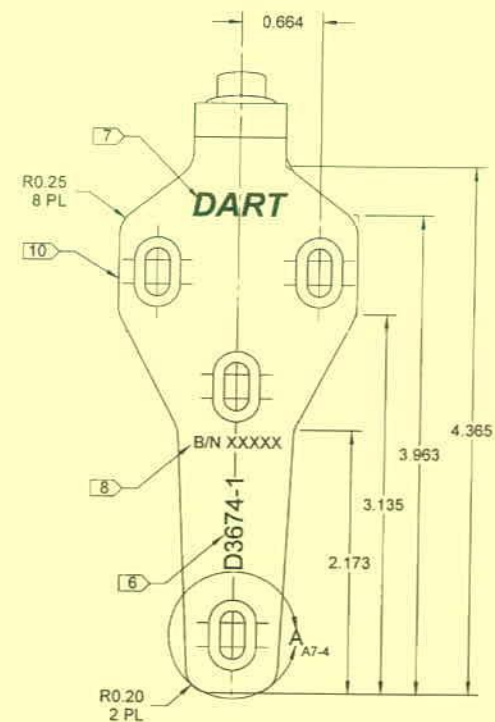
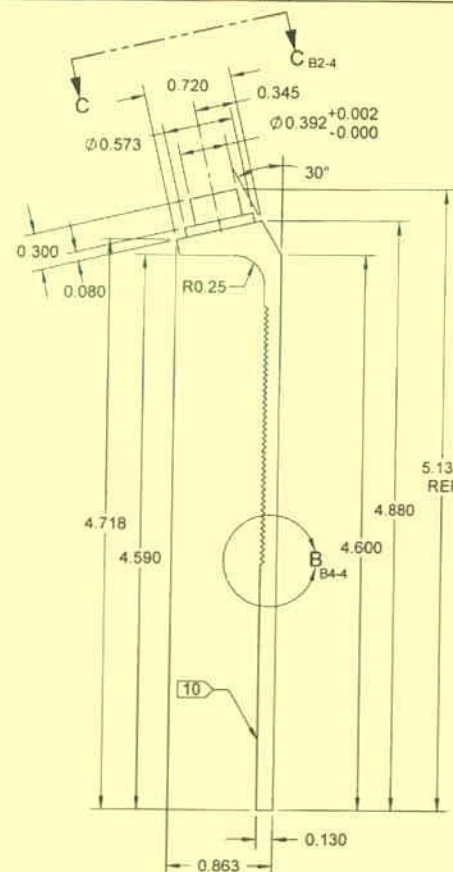
D3674-041 BRACKET ASSEMBLY

RELEASED
08-06-76

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG APPR.	<i>[Signature]</i>	D3674	SHEET 2 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	ROLLER BRACKET ASSEMBLY	NTS
DATE	08.03.26	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



D3674-1 BRACKET

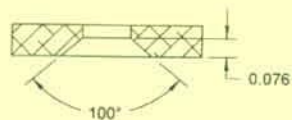


NOTES:

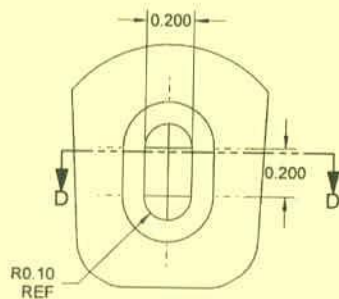
- 1) MATERIAL: 17-4 PH, STAINLESS STEEL BAR
PER AMS 5604/5643
GRAIN DIRECTION MUST BE ALONG THE LENGTH OF THE BRACKET
MINIMUM YIELD TENSILE STRENGTH = 100 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 150 ksi
(REF. DART SPEC. M17-4-B)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE WITH DART P/N "D3674-1" WITH 0.15 HIGH LETTERS TO A
MAX DEPTH OF 0.010 IN AREA SHOWN
- 7) IDENTIFICATION: ENGRAVE DART LOGO WITH 0.20 HIGH LETTER TO A
MAXIMUM DEPTH OF 0.010 IN AREA SHOWN
- 8) IDENTIFICATION: SCRIBE DART B/N USING VIBRATING STYLUS
- 9) WEIGHT: 0.03 lbs
- 10) BASIC PROFILE OF D3674-1 BRACKET TAKEN FROM D3121-141 REF.

RELEASED
26-06-2014

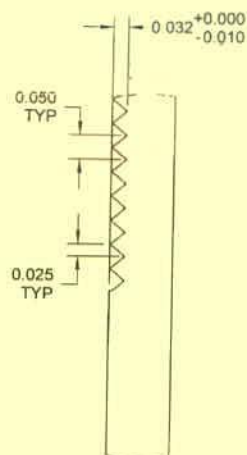
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	ADS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3674	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		ROLLER BRACKET ASSEMBLY	NTS
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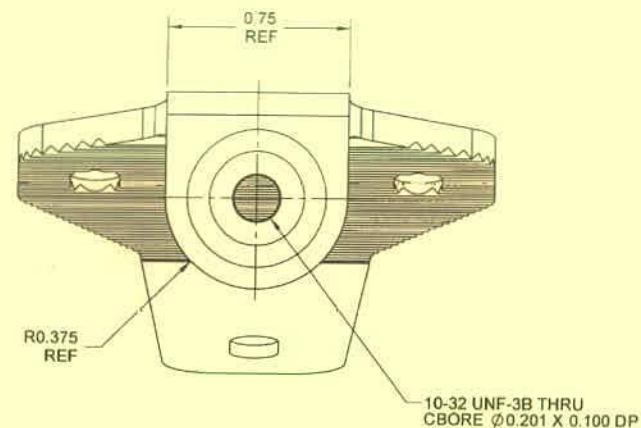
SECTION D-D



DETAIL A B2-3
SCALE 2X
(SLOT DETAIL 4PL)



DETAIL B C4-3
SCALE 4X
(RIDGE DETAIL)



VIEW C-C D3-3
SCALE 2X

RELEASED
08-06-76

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO. D3674	REV. A
MFG. APPR.		TITLE ROLLER BRACKET ASSEMBLY	SCALE NTS
APPROVED		COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DE APPR.			
DATE	08.03.26		

DART AEROSPACE LTD		Work Order:	142134
Description: Bracket		Part Number:	D3674-1
Inspection Dwg: D3674 Rev: A		Page 1 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.960	+/-0.010	1.960	✓		SL10	Vern
0.750	+/-0.010	0.750	✓		"	
0.605	+/-0.010	0.603	✓		Height gauge	
3.380	+/-0.010	3.380	✓		"	
2.430	+/-0.010	2.430	✓		SL10	
0.380	+/-0.010	0.380	✓			
0.73	+/-0.030	0.730	✓			
0.95	+/-0.030	0.950	✓			
2.140	+/-0.010	2.135	✓			
2.030	+/-0.010	2.020	✓			
4.718	+/-0.010	4.715	✓		Height gauge	
4.590	+/-0.010	4.587	✓		"	
0.863	+/-0.010	0.865	✓		"	
0.130	+/-0.010	0.125	✓		SL10	
4.600	+/-0.010	4.600	✓		"	
4.880	+/-0.010	4.875	✓		"	
5.139	+/-0.010	5.135	✓		"	
R0.25	+/-0.030	0.250	✓		Rad gauge	
0.080	+/-0.010	0.080	✓		SL10	
0.300	+/-0.010	0.300	✓		"	
30°	+/-0.5°	30°	✓		Protractor	
Ø0.573	+/-0.010	0.572	✓		SL10	
0.720	+/-0.010	0.720	✓		"	
0.345	+/-0.010	0.345	✓		"	
Ø0.392	+0.002/-0.000	0.3935	✓		SL02	Mic
2.173	+/-0.010	2.173	✓		SL10	
3.135	+/-0.010	3.135	✓		"	
3.963	+/-0.010	3.963	✓		"	
4.365	+/-0.010	4.365	✓		"	
0.664	+/-0.010	0.665	✓		"	
100°	+/-0.5°	100°	✓		Protractor	
0.076	+/-0.010	0.076	✓		SL10	
0.200	+/-0.010	0.200	✓		"	
0.200	+/-0.010	0.1955	✓		"	
R0.10	+/-0.030	0.100	✓		Rad gauge	
0.032	+0.000/-0.010	0.030	✓		SL11	Depth gauge

